

REMARKS

By the present amendment, paragraph and claims 3 and 7 have been amended to correct a clerical error in the term “sorbent” has been changed to “adsorbent”. Support for this amendment, is found in paragraphs 11 and 13 of the application as filed.

In the Office Action, claims 1, 7, 9, and 11 have been rejected under 35 U.S.C. § 102(b) as being anticipated by the Klusewitz et al. U.S. Patent No. 3,142,549. This rejection is respectfully traversed.

Applicants agree that the subject matter of claim 1 is disclosed in the Klusewitz et al. ‘549 patent with the exception of the phrase:

The third filter media adapted to filter Toxic Industrial Materials (TIMs) and mounted in said supplementary filter canister in communication with the inlet and the outlet openings in the second filter canister.

Contrary to the Examiner’s representation, the Klusewitz et al. ‘549 reference does not disclose a third filter media that is adapted to filter Toxic Industrial Materials and mounted in the supplementary filter canister in communication with the inlet and outlet openings in the second filter canister. The filter disk 8 is made of felt or paper and the pre-filter pad 9 is in the form of filtering materials such as cotton or loosely compacted paper for collecting a substantial amount of paint spray or material suspended in the atmosphere which is to be filtered. Neither of these two filter materials are adapted to filter Toxic Industrial Materials.

Contrary to the Examiner’s representations on page 2 of the Office Action, a TIM is not defined in the National Institute of Justice Guide (NIJ Guide) as a chemical other than a chemical warfare agent that may have harmful effects on humans... and are used in a variety of settings such as manufacturing facilities, maintenance areas, and general storage areas. That sentence, taken out of context, is merely a lead-in to the discussion of what a TIM is and isn’t. The Examiner’s attention is drawn to page 10 of the NIJ Guide, paragraph 2.2.1 General, which states as follows:

A TIM is a *specific type* of industrial chemical i.e., one that has a LC₅₀ value (lethal concentration for 50% of the population multiplied by exposure time) less than 100,000 mg-min/m³ in any

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mammalian species and is produced in quantities exceeding 30 tons per year at one production facility. Although they are not as lethal as the highly toxic nerve agents, their ability to make a significant impact on the populace is assumed to be more related to the amount of chemical a terrorist can employ on the target(s) and less related to their lethality. None of these compounds are as highly toxic as the nerve agents, but they are produced in very large quantities (multi-ton) and are readily available; therefore, they pose a far greater threat than chemical agents. For instance, sulfuric acid is not as lethal as the nerve agents, but it is easier to disseminate large quantities of sulfuric acid because of the large amounts that are manufactured and transported every day. It is assumed that a balance is struck between the lethality of a material and the amount of materials produced worldwide. Materials such as the nerve agents are so lethal as to be in a special class of chemicals. (Emphasis added.)

The Examiner will appreciate that a TIM is a specific type of industrial chemical as defined in the Paragraph 2.2.1 above. Further, the TIMs are listed by hazardous index in table 2.4 on page 12. The Examiner is invited to identify which of the TIMs listed in page 12 that are alleged to be filtered by the particulate filters disclosed in the Klusewitz et al. '549 pre-filter pad 9 or filter disk 8. The Examiner is further requested to support his representation by citation to a printed document.

Enclosed herewith in support of Applicant's position as to the patentability of the rejected claims over the Klusewitz et al. '549 reference, is a "Declaration Under 37 C.F.R. § 1.132 of David Pike." Mr. Pike is an expert in the field of defense respirators in general and in filter media for such respirators in particular. At the very least, he is a person of at least ordinary skill in the field of these respirators and filter media. See Pike Declaration paragraph 2. See also Curriculum Vitae of Mr. Pike attached as Exhibit A to the Pike Declaration.

Mr. Pike sets forth the background for the invention of the above-identified patent application and the very significant problems presented by these TIMs for protection if only military charcoals are used in a respirator. See Pike Declaration paragraph 4. In addition, Mr. Pike refers to performance requirements for the JSGPM, a respirator mask that was designed principally by Applicants assignee, Avon Protection Systems, Inc., and its predecessor in interest. The performance requirements for this mask were known at least by April 18, 2000, as a result of

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an April 19, 1998, report of an International Task Force to Study Hazards from Industrial Chemicals. See NIJ Guide 100-00, at page 10, second full paragraph. A detailed reference to this guide appears in Appendix B to this report. The JSGPM has been adopted by the U.S. Army for use in warfare and in terrorist attacks.

Mr. Pike further describes the development of military filters and the problems posed by TIMs in potential terrorist attacks in paragraphs 6-8 of his Declaration. In paragraph 9 of his Declaration, Mr. Pike describes a solution which the inventors of this application found to resolve the problem of protection against TIMs as required by the JSGPM Performance Requirements. This invention solved a long felt need in the industry and is a very valuable contribution to the art of military filters.

In paragraph 11 of his Declaration, Mr. Pike discusses the Klusewitz et al. '549 reference and affirmatively states that the disposable pre-filter in the Klusewitz et al. '549 patent is a particulate filter designed to reduce clogging of the high efficiency particulate filter and is not adapted to remove Toxic Industrial Materials (TIMs) as that term is understood by a person of ordinary skill in the art of respirators at least as of April 18, 2000, the priority date for the above-identified U.S. patent application. Mr. Pike further affirmatively states in the same paragraph that "a person with ordinary skill in the respirator art at least as of April 18, 2000, would not consider the Klusewitz et al. '549 pre-filter to be a TIM filter media, i.e., adapted to remove TIMs, because of the failure of this pre-filter to remove any of the gas components of TIMs". Further, Mr. Pike affirmatively states that "the Klusewitz et al. '549 pre-filter does not have an adsorbent material and thus is not capable of removing gaseous components of what are understood as TIMs by those persons that have ordinary skill in the art of respirators.

Attached as Exhibit D to the Pike Declaration is a document published by the Department of Health and Human Services, Centers for Disease Control and Prevention, The National Institute of Occupation Safety and Health in April 2003 (DHHS Document). Mr. Pike refers to a discussion of filtration and air cleaning principles in paragraph 13 of his Declaration as set forth on pages 8-16 of the DHHS document. He avers in that paragraph that the concept of particulate air filtration is the type of filtration to which the Klusewitz et al. '549 auxiliary pre-filter is directed.

In paragraph 14 of the Pike Declaration, he refers to gas phase cleaning which is discussed in the DHHS Document, section 3.2, pages 15-17. He states that gas phase air cleaning described in this section of the DHHS document is not the type of filtration that is described in the Klusewitz et al. '549 patent auxiliary filter particulate filter medium.

Finally, Mr. Pike states that he is of the firm opinion that the Klusewitz et al. '549 patent does not disclose or suggest the invention which is claimed in claims 1-13 of the above-identified patent application.

In view of the foregoing, it is apparent that the Klusewitz et al. '549 patent does not disclose each and every limitation of claims 1, 7, 9, and 11 of the above-identified patent application. In particular, the Klusewitz et al. '549 patent does not disclose a pre-filter which is adapted to filter toxic industrial materials as required by each of these claims.

With respect to claim 7, it further calls for the third filter media to be particulate filter and an adsorbent filter¹. Contrary to the Examiner's representation, there is no disclosure in the Klusewitz et al. '549 patent, especially in column 2, lines 54-60 and columns 3, lines 45-51 that the filter 9 can serve as an "adsorbent filter". As affirmed by Mr. Pike in his Declaration, this filter 9 cannot serve as an adsorbent filter. An adsorbent filter is one which filters gases. It is quite clear from reading the Klusewitz et al. '549 patent that it cannot be used for filtering gases. It only filters particulate materials. See Pike Declaration, paragraph 11, last sentence thereof.

With respect to claim 11, the Klusewitz et al. '549 reference does not disclose a third filter medium which is adapted to boost the capabilities of the first and second filter media to filter TIMs from contaminated air. The particulate filters of Klusewitz et al. '549 do not filter TIMs from air. See above discussion with respect to Klusewitz et al. filter media 8 and 9 and reference to the enclosed Pike Declaration.

Contrary to the Examiner's representation, the third filter media 8 and 9 are not adapted to boost the capability of the first and second filter media to filter TIMs. Rather, they are selected to filter particulate material, including droplets of paint. These materials are not TIMs.

¹ Although the term "sorbent" was used in claim 7 as filed, it has been amended to "adsorbent." Applicants believe these terms are synonymous. See definition of "sorbent" on page 15 of the HSSS Document, Exhibit D to Pike Declaration.

In view of the foregoing, it is submitted that claims 1, 7, 9, and 11 are not anticipated by the Klusewitz et al. '549 patent.

Claim 8 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Klusewitz et al. '549 in view of the Sundstrom U.S. Patent No. 5,158,077. This rejection is respectfully traversed.

The alleged combination of Klusewitz et al. '549 and Sundstrom '077 is traversed. There is no basis for making the alleged combination. However, even if the alleged combination were to be made, it still would not reach Applicant's claimed invention. The alleged combination would simply add the Sundstrom '077 pleated filter media for filtering particles. This alleged combination does not reach Applicant's claimed invention because it does not disclose all of the limitations of claim 1 from which claim 8 depends. The alleged combination does not disclose a third filter media adapted to filter Toxic Industrial Materials (TIMs) as required by claim 1. It is thus believed that claim 8 patentably distinguishes over the alleged combination of Klusewitz et al. '549 in view of Sundstrom '077.

Claim 10 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Klusewitz et al. '549 patent in view of the Newton U.S. Patent No. 5,660,173. This rejection is respectfully traversed.

The alleged combination of Klusewitz et al. '549 and Newton '173 is traversed. There is no basis for making the alleged combination. There is no teaching that would suggest that metallic salts that interact with contaminate gases could be added to the Klusewitz et al. '549 adsorbent material. The Klusewitz et al. '549 patent is intended to filter paint fumes and particulate droplets from the air which is breathed by a worker. There is no reason why a paint spray booth respirator filter should be enhanced to adsorb a wide variety of warfare gases. There is no reason to believe that an expanded adsorbent capability should be added to the Klusewitz et al. '549 primary filter. Thus, the alleged combination of Klusewitz et al. '549 and Newton '173 is inappropriate.

However, even if the alleged combination of Klusewitz et al. '549 and Newton '173 were to be made, however untenably, it still would not reach Applicant's claimed invention. The alleged combination would not include a third filter media adapted to filter Toxic Industrial

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Materials (TIMs) as required by claim 1. For this reason, it is believed that claim 10 defines over any alleged combination of Klusewitz et al. '549 and Newton '173.

Claims 12 and 13 have been rejected under 35 U.S.C. § 103 as being unpatentable over Klusewitz et al. '549. This rejection is respectfully traversed.

There is no teaching or suggestion in Klusewitz et al. that the primary or supplementary filter canisters can have an elliptical shape. The Examiner's allegation that it would have been obvious to a person with ordinary skill in the art to make the canisters of Klusewitz et al. of elliptical shape is not supported by the Klusewitz et al. '549 patent. Nor is it supported by any evidence. Further, claims 12 and 13 depend from claim 1 which calls for a third filter media adapted to filter Toxic Industrial Materials. This concept is not disclosed in Klusewitz et al. '549.

In view of the foregoing, it is submitted that all of the claims in the application are in condition for allowance. Early notification of allowability is respectfully requested.

The Examiner's allowance of claims 2-6 is noted with appreciation. However, in view of Applicant's position on independent claim 1 as set forth above, these claims have not been rewritten in independent form.

In view of the foregoing, it is submitted that the application is in condition for allowance. Early notification of allowability is respectfully requested. Should the Examiner feel that the application is still not allowable, the courtesy of a telephone interview with the undersigned attorney would be most appreciated.

Respectfully submitted,

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